

## List of Publications

### Journal

- [1] **Sheet D**, Karamalis A, Eslami A, Noel PB, Chatterjee J, Ray AK, Laine AF, Carlier SG, Navab N, Katouzian A, "Joint learning of ultrasonic backscattering statistical physics and signal confidence primal for characterizing atherosclerotic plaques using intravascular ultrasound", *Medical Image Analysis*, vol. 18, no. 1, pp. 103-117, 2014. ([Impact factor: 4.662](#))
- [2] **Sheet D**, Karamalis A, Eslami A, Noel PB, Virmani R, Nakano M, Chatterjee J, Ray AK, Laine AF, Carlier SG, Navab N, Katouzian A, "Hunting for necrosis in the shadows of intravascular ultrasound", *Computerized Medical Imaging and Graphics*, vol. 38, no. 2, pp. 104-112, 2014. ([Impact factor: 1.954](#))
- [3] **Sheet D**, Chaudhary A, Karri SPK, Das D, Katouzian A, Banerjee P, Navab N, Chatterjee J, Ray AK, "In situ histology of mice skin through transfer learning of tissue energy interaction in optical coherence tomography", *J. Biomed. Optics*, vol. 18, no. 9, pp. 090503-1-3, 2013. ([Impact factor: 3.145](#))
- [4] Katouzian A, Karamalis A, **Sheet D**, Konofagou E, Baseri B, Carlier SG, Eslami A, Koenig A, Navab N, Laine AF, "Iterative self-organizing atherosclerotic tissue labeling in intravascular ultrasound images and comparison with virtual histology", *IEEE Trans. Biomed. Engg.*, vol. 59, no. 11, pp. 3039-3049, 2012. ([Impact factor: 2.525](#))
- [5] Garud HT, **Sheet D**, Mahadevappa M, Chatterjee J, Ray AK and Ghosh A, "Breast fine needle aspiration cytology practices and commonly perceived diagnostic significance of cytological features: a pan-India survey", *J. Cytology*, vol. 29, no. 3, pp. 183-189, 2012. ([Impact factor: 0.333](#))
- [6] Thakur G, Mitra A, Basak A, **Sheet D**, "Characterization and scanning electron microscopic investigation of cross linked freeze dried gelatin matrices for study of drug diffusivity and release kinetics", *Micron*, vol. 43, no. 2, pp. 311-320, 2012. ([Impact factor: 1.912](#))
- [7] **Sheet D**, Chatterjee J and Garud H, "Feature usability index and optimal feature subset selection", *Int. J. Comp. Appl.*, vol. 12, no. 2, pp. 29-32, 2010. ([Impact factor: 0.821](#))
- [8] **Sheet D**, Garud H, Suveer A, Chatterjee J and Mahadevappa M, "Brightness preserving dynamic fuzzy histogram equalization", *IEEE Trans., Consumer Electronics*, vol. 56, no. 4, pp. 2475 – 2480, 2010. ([Impact factor: 1.092](#))

### Patents

- [1] Method and apparatus for enhancing representations of micro-calcifications in a digital mammogram image (2012), Garud H, **Sheet D**, Suveer A, Mahadevappa M, Ray AK, *US Patent*, Pub. no. US2012/0087565 A1, Pub. on 12 Apr. 2012.
- [2] Method and system for determining skinline in digital mammogram images (2011), Garud H, Ray AK, Kargallu AG, **Sheet D**, *US Patent*, Pub. no. US 2011/0200238 A1, Pub. on 18 Aug. 2011.
- [3] Digital microscopy equipment with image acquisition, image analysis and network communication (2011), Garud H, **Sheet D**, Chatterjee J, Mahadevappa M, Ray AK, *US Patent*, Pub. no. US 2011/0122242 A1, Pub. on 26 May 2011.
- [4] Method and system for analyzing breast carcinoma using microscopic image analysis of fine needle aspirates (2010), Garud H, Mitra B, **Sheet D**, Maity PP, Ray AK, Chatterjee J, Chakraborty C, Ghosh A, Banerjee P, *US Patent*, Pub. no. US 2010/0111397 A1, Pub. on 6 May 2010.
- [5] System and methods for characterizing tissues in intravascular ultrasound using statistical physics (2013), Laine AF, Katouzian A, **Sheet D**, Karamalis A, *US Patent Application* 68,355, Applied on 15 March 2013.
- [6] Intelligent implanted health sensing device and assembly (2012), Katouzian A, Navab N, **Sheet D**, Karamalis A, Hennesperger C, *European Patent Application*, (Invention disclosure submitted on 20 July 2012).

- [7] Methods and system for characterizing tissues in optical coherence tomography (2013), **Sheet D**, Chaudhary A, Chatterjee J, Ray AK, Katouzian A, *Indian Patent Application*, (Invention disclosure submitted on 19 June 2013).
- [8] Adaptive weighted local difference order statistics filter (2013), Garud H, **Sheet D**, Madadevappa M, Chatterjee J, Ray AK, *US Patent Application*, (Invention disclosure submitted on 5 August 2013).

### Book

- [1] **Sheet D**, Chatterjee J and Ray AK, *Feature Usability Index*, Lambert Academic Publishing, Germany, 2011.

### Book Chapters

- [1] Garud H, **Sheet D**, Chatterjee J, Mahadevappa M, Ray AK and Ghosh A, "Computer Vision Theoretic Approach for Breast Cancer Diagnosis: Commonly Perceived Diagnostic Significance of Cytological Features and Feature Usability Analysis of an Existing Breast Cancer Database", In: *Multimodality Breast Imaging: Diagnosis and Treatment*, (Ng EYK, Acharya UR, Rangayyan RM, Suri JS, Eds.) , SPIE, Ch. 13, March 2013.

### Magazine Articles

- [1] **Sheet D**, "Electronic Dice using AT89C2051", *Electronics for You*, 105, 2010.

### Conference (Archived full papers)

- [1] Learning Scale-space Representation of Nucleus for Accurate Localization and Segmentation of Epithelial Squamous Nuclei in Cervical Smears (2014), Karri SPK, Garud H, **Sheet D**, Ray AK, Chatterjee J, Mahadevappa M, *Proc. Int. Conf. Biomed., Health Informatics (BHI)*, 772-775.
- [2] Transfer Learning of Tissue Photon Interaction in Optical Coherence Tomography towards In vivo Histology of the Oral Mucosa (2014), **Sheet D**, Banerjee S, Karri SPK, Bag S, Anura A, Giri A, Paul RR, Pal M, Sarkar BC, Ghosh R, Katouzian A, Navab N, Ray AK, *Proc. Int. Symp. Biomed. Imaging (ISBI)*.
- [3] A Generalized Framework for Stain Separation in Digital Pathology Applications (2014), Ghosh B, Conjeti S, Karri SPK, **Sheet D**, Garud H, Ghosh A, Chatterjee J and Ray AK, *Proc. SPIE Medical Imaging: Digital Pathology*.
- [4] Enhancing effective depth-of-field using spectra-specific wavelets based multi-focus image fusion for digital pathology applications (2014), Conjeti S, Ghosh B, Karri SPK, **Sheet D**, Garud H, Chatterjee J and Ray AK, *Proc. SPIE Medical Imaging: Digital Pathology*.
- [5] Detection of retinal vessels in fundus images through transfer learning of tissue specific photon interaction statistical physics (2013), **Sheet D**, Karri SPK, Conjeti S, Ghosh S, Chatterjee J and Ray AK, *Proc. Int. Symp. Biomedical Imaging (ISBI)*.
- [6] Random forest learning of ultrasonic statistical physics and object spaces for lesion detection in 2D sonomammography (2013), **Sheet D**, Karamalis A, Kraft S, Noel PB, Vag T, Sadhu A, Katouzian A, Navab N, Chatterjee J and Ray AK, *Proc. SPIE Medical Imaging: Ultrasonic Imaging, Tomography, and Therapy*, (Bosch JG, Doyley MM, Eds), 8675, 867515-1-8.
- [7] Introducing nuclei scatter patterns into histology based intravascular ultrasound simulation framework (2013), Kraft S, Karamalis A, **Sheet D**, Noel PB, Drecoll E, Navab N, Katouzian A, *Proc. SPIE Medical Imaging: Ultrasonic Imaging, Tomography, and Therapy*, (Bosch JG, Doyley MM, Eds), 8675, 86750Y-1-6.
- [8] Brightness preserving contrast enhancement in digital pathology (2011), Garud H, **Sheet D**, Suveer A, Karri SPK, Ray AK, Mahadevappa M, Chatterjee J, *Proc. Int. Conf. Image Information Processing*, 1-5.

- [9] Volume visualization approach for depth-of-field extension in digital pathology (2011), Garud H, Ray AK, Mandal S, **Sheet D**, Mahadevappa M, Chatterjee J, *Proc. 4th Int. Conf. Image and Signal Processing*, 335-339.
- [10] Comparative evaluation of speckle reduction algorithms in optical coherence tomography (2010), Pal S, **Sheet D**, Chakraborty A, Chatterjee J, *IEEE India Ann. Conf.*, 1-4.
- [11] Visual importance pooling for image quality assessment of despeckle filters in optical coherence tomography (2010), **Sheet D**, Pal S, Chakraborty A, Chatterjee J, Ray AK, *Int. Conf. Sys. Med. Biol.*, 102-107.
- [12] Evaluation of p63 expression in oral sub-mucous fibrosis (2010), Das RK, Venkatraghavan V, **Sheet D**, Chakraborty C, Ray AK, Chatterjee J, Pal M, Paul RR, *Int. Conf. Sys. Med. Biol.*, 166-171.
- [13] Image quality assessment for performance evaluation of despeckle filters in optical coherence tomography of human skin (2010), **Sheet D**, Pal S, Chakraborty A, Chatterjee J, Ray AK, *Proc. IEEE EMBS Conf. Biomedical Engineering and Sciences*, 499-504.
- [14] Statistical tools for evaluating classification efficacy of feature extraction techniques (2010), **Sheet D**, Venkatraghavan V, Suveer A, Garud H, Chatterjee J, Mahadevappa M, Ray AK, *Proc. 2nd Int. Conf. Digital Image Processing*, SPIE, 7546, 75461B-1-8.
- [15] An Electroencephalogram Signal based Triggering Circuit for controlling Hand Grasp in Neuroprosthetics (2009), Karthikeyan G, **Sheet D**, Manjunatha M, *Proc. 13th Int. Conf. Biomedical Engineering*, 691-693.
- [16] Voice Filtering over a Wideband Stereophonic Audio Signal (2008), **Sheet D**, *Proc. Nat. Conf. VLSI and Comm.*, 24-28.
- [17] RFID based Airport Logistics Management (2008), Datta T, **Sheet D**, Si AK, Biswas SD, Ghosh D, *Proc. 3rd Inn. Conf. on Embedded Systems, Mobile Communication & Computing*, 228-232.
- [18] Realization and simulation of the hardware for RFID system and its performance study (2007), **Sheet D**, Kumar A, Dutta A, Dasgupta S, Datta T, Sarkar SK, *Proc. Int. Conf. Information and Communication Technology in Electrical Sciences*, 697-700.

#### Conference Abstracts:

- [19] Learning of Tissue Photon Interaction in Laser Speckle Contrast Imaging for Label-free Retinal Angiography (2014), Basak K, **Sheet D**, Karri SPK, Mahadevappa M, Chatterjee J, Dutta PK, *Int. Symp. Biomedical Imaging (ISBI)*.
- [20] Deep Learnt Random Forests for Segmentation of Retinal Layers in Optical Coherence Tomography Images (2014), Karri SPK, **Sheet D**, Guha Mazumder A, Ghosh S, Chakraborty D, Chatterjee J, Ray AK, *Int. Symp. Biomedical Imaging (ISBI)*.
- [21] Computational Histology of Retina through Transfer Learning of Tissue Photon Interaction in Optical Coherence Tomography (2014), Karri SPK, **Sheet D**, Guha Mazumder A, Ghosh S, Chakraborty D, Chatterjee J, Ray AK, *Int. Symp. Biomedical Imaging (ISBI)*.
- [22] Enhancing effective depth-of-field using spectra-specific wavelet based multi-focus image fusion for digital pathology applications (2013), Conjeti S, Ghosh B, Karri SPK, **Sheet D**, Chatterjee J, *Microscopy Conference MC 2013*, Regensburg, Germany.
- [23] Automated Characterization of Pap Stained Cervical Smears Using Physics of Brightfield Microscopy Optics (2013), Karri SPK, Garud H, **Sheet D**, Malviya R, Das L, Ray AK, Chatterjee J, Chakraborty D, Mahadevappa M, *Int. Symp. Biomedical Imaging (ISBI)*.
- [24] Method and System for Segmentation of Clustered Nuclei in Microscopic Images of Breast Fine Needle Aspiration Cytology Smears (2013), Garud H, Karri SPK, **Sheet D**, Ray AK, Mahadevappa M, Chatterjee J, *Int. Symp. Biomedical Imaging (ISBI)*.
- [25] Activity Estimation and Lineage Construction of Cells in Densely Populated Colonies Using Numerical Method Based Greedy Search (2013), Karri SPK, **Sheet D**, Garud H, Chaudhary A, Ray AK, Chatterjee J, Chakraborty D, Mahadevappa M, *Int. Symp. Biomedical Imaging (ISBI)*.
- [26] Ambiguity detection of necrosis in IVUS (2012), Katouzian A, **Sheet D**, Eslami A, Karamalis A, Koenig A, Carlier SG, Navab N, *An. Conf. Eur. Soc. Cardiol. (ESC Cardio)*.

- [27] Machine learning of ultrasonic statistical physics primal for tissue characterization in intravascular ultrasound (2012), **Sheet D**, Karamalis A, Navab N, Laine AF, Chatterjee J, Ray AK, Carlier SG, Katouzian A, *An. Conf. IEEE Engg. Med. Biol. Soc. (EMBC)*.
- [28] A Biomimetic Computer Vision System for Navigating a Visually Impaired Person (2009), Kumar A, Mandal S, **Sheet D**, Mahadevappa M, Chatterjee J, Mukhopadhyay J, Ray AK, *Int. Symp. Emerging Areas in Biotechnology & Bioengineering*.

A chapter book or chapterbook is a story book intended for intermediate readers, generally age 7–10. Unlike picture books for beginning readers, a chapter book tells the story primarily through prose, rather than pictures. Unlike books for advanced readers, chapter books contain plentiful illustrations. The name refers to the fact that the stories are usually divided into short chapters, which provide readers with opportunities to stop and resume reading if their attention spans are not long enough to A chapter is one of the main divisions of a piece of writing of relative length, such as a book of prose, poetry, or law. A chapter book may have multiple chapters and these can be referred to by the things that may be the main topic of that specific chapter. In each case, chapters can be numbered or titled or both. An example of a chapter that has become well known is "Down the Rabbit-Hole", which is the first chapter from Alice's Adventures in Wonderland.